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Contract No. W-35-058, eng. 71

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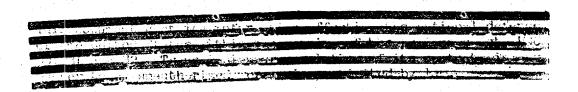
## HEALTH PHYSICS DEPARTMENT

### REPORT FOR MONTH EPIDING OCTOBER 31, 1946

K. Z. Morgan

Date Received: 11/6/46

Date Issued: 11/8/46



**DECLASSIFIED** 

Per Letter Instructions Cf

TID-1116

M. Nickey

Fer: N. T. Bray, Supervisor Laboratory Records Dept. ORML



#### CLINTON LABORATORIES

#### HEALTH PHYSICS DEPARTMENT

J.X.

#### K. Z. Morgan

A broom was being used by one of the janitors in the Chemistry Building (706-A) at 8:30 p.m. on 10/11/46 when it was observed that it set off the friskers that are placed around the doorways in several parts of the building. A Health Physics surveyor made some measurements and located a spot on the broom that read 3 roentgens per nour at a distance of 3 inches.

Routine surveys of the Chinton Laboratories' trucks during the past month disclosed that three were contaminated. A high spot on one of 1800 mr/hr was located.

Eight truckloads of radioactive material from Dayton were buried in Clinton Laboratories' burial ground during the month. Some of the trucks read over 500 mr/hr at the tail gate and so arrangements have been made to park the trucks when they arrive at an isolated location where people can not be unknowingly exposed until the radioactive material can be buried.

Climton aboratory fire truck, OME 68, has been provided with radiation detection instruments which are to be carried along to fires in the restricted areas.

Extreme care is being taken by persons at Clinton Laboratories who are responsible for the production and shipment of radicactive isotopes to make certain that they are free of undesirable contaminants. As an illustrion of necessary precuations, the tellurium that is irradiated to produce icdine-131 should be free of biamuth to prevent the appearance of polorium in the irradiated sample. The absence of this undesirable polonium is assured by making a spectrographic analysis of the tellurium before it is irradiated and by checking the alpha court of the final sample.

An analysis was made by R. D. Cameron of the data collected during the past five months by a continuously recording Geiger-Muller counter located near Solway bridge, right miles from Clinton Laboratories. The counts were about 5% higher when the wind blew up the valley from Clinton Laboratories toward Solway bridge than when it blew down the valley.

n extensive survey was made of the mid activity in the White Oak drainage system. The results are given in the following table:

(see page 7)





						. •	
ι.,	parea of White Cak	Approx. Distance					î
	Lake Surveyed	l belon d. L.	we/sc.ft.	Total Curies	wc/sg.ft.	Total Curies	
	Marsh Section Intermediate Fond	2,120 ft. 3,250 ft.	91.5 87.6	42.7 4.6	Complete Com	67 3	1
	W. O. Lake Mnd Flato White Oak Lake Area below Spillway	6,900 ft. 8.600 ft. 10,350 ft.	22.0 8.5 1.0	34.9 6.8 0.3	9.6 27.1 2.7	6.5 13.5 0.9	
	Probable Totals		ER. 19024 WHATE	69.3		95	Marie Company

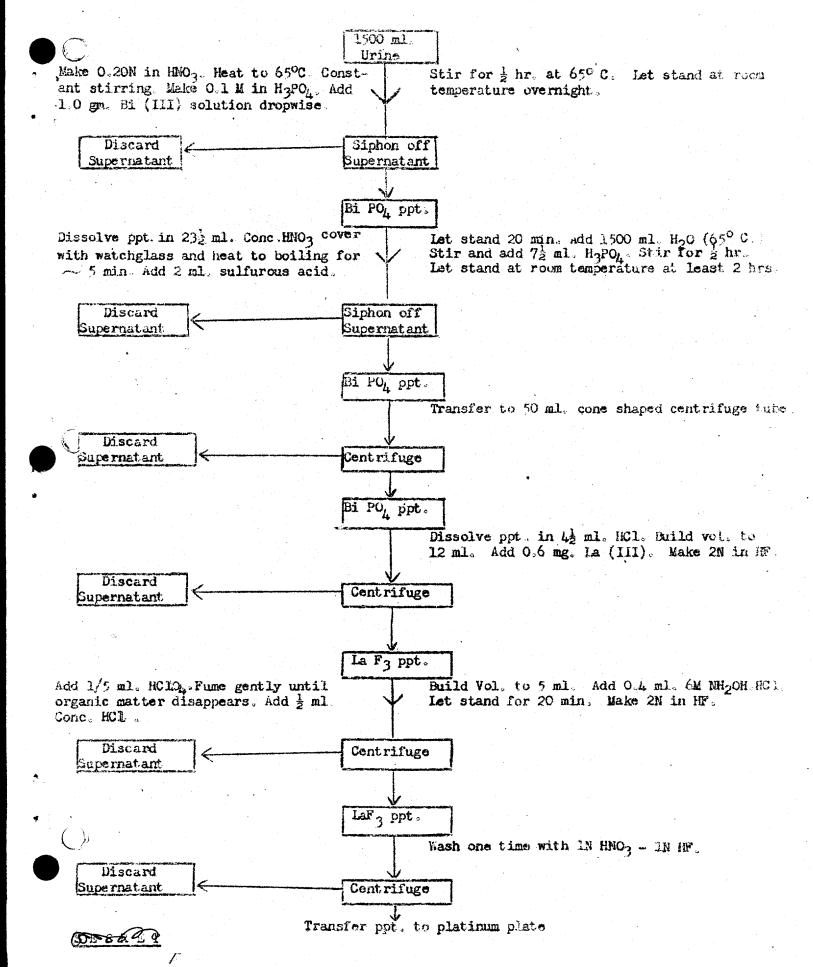
Dr. d. E. Hose in Chicago notified us that a shippent had arrived by truck that had a higher field of radiation in the cab than is usually permitted. An investigation revealed that the boxes had been moved nearer to the cab after they had been surveyed by Health Physics surveyors at Clinton Laboratories and shored by the targesters in this new position. This mistake will be avoided in the future because the Health Physics surveyors have been instructed to survey truck shipments only when they can see the boxes finally arranged and instead in place.

A new Chang and Eng, double ionization fast newtron chamber, has been constructed and placed in production by P. W. Reinhardt. This instrument is housed in an  $3^n$  x  $4^n$  x  $3^n$  aluminum box and weight only about six pounds. A flux of  $2^n$  neutrons per cm<sup>2</sup> per sec produces a drift of one division per second on the electrometer.

A number of requests have been received for the flow sheet of the Bi PO, method of separating plutonium from the urine as developed and used by L. B. Farabee at Chinton Laboratories. This flow sheet is given on page 8.



PRECIPITATION





# CLINTON LABORATORIES

# HEALTH PHYSICS DEPARTMENT

# K. Z. Morgan

# DISTRIBUTION OF EFFORT FOR THE MONTH OF OCTOBER, 1946

Personnel	Monthly	Heekly
Physicists (Assoc., Sr. & Prin.) Chemist, Elect. Engr., H.P. Supv., Adm. Asst. Jr. Physicists & Research Assistants Jr. Chemists Laboratorians, Technicians & Clerical	9 4 23 2 0 38	0 0 0 0 32
	<b>8</b> ر	32
Number of Technical personnel added during month: Number of Technical personnel terminated or transferred:	2	
Allocation of time during October in Man-months:		
Services		
Pocket meters Badge & ring meters Neutron Films Hand, shoe & glove counts Laundry counting Instrument calibration & repair Surveys - 100 Area and 706-B Surveys - 200 Area Surveys - 706-A Surveys - 706-C, D Surveys - Construction Area Mad, Mater & Air Surveys Radiation Consultant to Army Technical Instruction Trainees  Research & Development	11200012212412	7 1 1 3 2 0 0 2 1 0 0 0 0 0 0
Improvement and Development of instruments Instrument Tests Physio-chemical effects of radiation Neutron studies Methods of detecting radioactive products in urine Preparation of P.P.R. Special Problems Development of laboratory facilities Technical Instruction Graduate School	2 1 2 1 2 1 2 1 1 1 1 2 2 1 2 1 1 1 1 2 2 1 2 1 1 1 1 2 2 1 2 1 2 1 1 1 2	0 0 0 0 1 0 0 0
Administrative Office Personnel Vacations & leaves of absence	2½ 0 1½ 38	0 4 13 32

